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A companion series for those among the 10,000 who have access to the Phase I WASTECH® Series on Innovative Site Remediation or have a basic understanding of these processes and their limitations.
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Consensus-based monographs endorsed by USEPA, DOE, DoD and one or more of the following in the WASTECH® consortium: Air & Waste Management Association, American Academy of Environmental Engineers, American Institute of Chemical Engineers, American Society of Civil Engineers, American Society of Mechanical Engineers, Hazardous Waste Action Coalition, Society for Industrial Microbiology, Soil Science Society of America, Water Environment Federation.

This seven-volume series focusing on the design and application of innovative site remediation technologies follows an earlier series (Phase I, 1994-1995, see page 3) which covers the process descriptions, evaluations, and limitations of these same technologies. The success of that series of publications suggested that this Phase II series be developed for practitioners in need of design information and applications, including case histories.

WASTECH® MONOGRAPH SERIES (PHASE II) ON INNOVATIVE SITE REMEDIATION TECHNOLOGY: DESIGN AND APPLICATION

VOL 1 — BIOREMEDIATION

Task Group: **R. Ryan Dupont, Ph.D.**, Utah State University, *Chair*; **Clifford J. Bruell, Ph.D.**, University of Massachusetts; **Douglas C. Downey**, Parsons Engineering Science; **Scott G. Huling**, USEPA; **Michael C. Marley, Ph.D.**, Environgen, Inc.; **Robert D. Norris, Ph.D.**, Eckenfelder, Inc.; **Bruce Pivetz**, USEPA.

Partial Contents: **Application Principles** including Scientific Principles, In Situ versus Ex-Situ Bioremediation Technology Characteristics, Limitations from Site, Soil, and Waste Characteristics, Remedial Technology Screening and Technology Selection. **Bioremediation Performance Evaluation** including Monitoring Parameters, Methods, and Limitations. **Soil Treatment Systems** including Bioventing, Land Treatment, Soil Cells, Phytoremediation. **Groundwater Treatment Systems** including Raymond Process (enhanced bioremediation of aquifers), Intrinsic Remediation, Aboveground Reactors, Biosparging, Permeable Migration Barriers. **Vapor Treatment Systems. Integrated Technologies** including Soil/Groundwater Remediation Systems, Bioslurping. **Case Histories** including Biofilter Vapor Treatment, Biosparging, Bioventing, Raymond Process, Explosives-Contaminated Soil Using Composting Technology, Integrated Technologies, Intrinsic Remediation at a Hydrocarbon-Contaminated Aquifer, and Land Treatment. March, 1998 Hardcover 420 pp. \$89.95 00-321-10

VOL 2 — CHEMICAL TREATMENT

Task Group: **Leo Weitzman, Ph.D.**, LVW Associates, *Chair*; **Irvin A. Jefcoat, Ph.D.**, University of Alabama; **Byung R. Kim, Ph.D.**, Ford Research Laboratory.

Partial Contents: **In Situ Electrochemically Induced Processes** including Scientific Principles, Potential Applications, Treatment Trains, Remediation Goals, Design, Implementation and Operation, and Case Histories; **In Situ Permeable, Electrochemically Active Metal Barriers; Supercritical Water Oxidation; Ex-Situ High Voltage Electron Beam Treatment; Appendix — Ex-Situ Electrochemical Treatment Processes** including Electrochemical Coagulation (ACE Technology, Andco's Electrocoagulation Pilot Study), and Electrochemical Oxidation (Silver II Process). 1997 Hardcover 232 pp. \$79.95 00-322-10

WASTECH® is a project which joins in partnership the twelve organizations listed on page 1. A Steering Committee composed of highly-respected members of each participating organization with expertise in remediation technology formulated and guided the project with management and support provided by the American Academy of Environmental Engineers. Each monograph was prepared by a task group of five or more recognized experts. Comments from a twofold peer review were considered and incorporated by the task group and submitted to the Steering Committee and participating organizations for approval.

VOL 3 — LIQUID EXTRACTION TECHNOLOGIES:

Soil Washing/Soil Flushing/Solvent Chemical Extraction

Task Group: **Michael J. Mann, P.E.**, DEE, Alternative Remedial Technologies, Inc., *Chair*; **Richard J. Ayen, Ph.D.**, Waste Management Inc.; **Lorne G. Everett, Ph.D.**, Geraghty & Miller, Inc.; **Dirk Gombert II, P.E.**, LIFCO; **Mark Meckes**, USEPA; **Chester R. McKee, Ph.D.**, In-Situ, Inc.; **Richard P. Traver, P.E.**, Bergmann USA; **Phillip D. Walling, Jr., P.E.**, E. I. DuPont Co. Inc. **Shao-Chih Way, Ph.D.**, In-Situ, Inc.

Partial Contents: **PART I — SOIL WASHING: Application Concepts** including Scientific Principles, Potential Applications, and Treatment Trains; **Design Development** including Remediation Goals, Design Basis, Design and Equipment Selection, Process Modification, Pretreatment, Posttreatment, Telemetry, Process Control, Data Acquisition, Safety Requirements, Specifications Development, Cost Data, Design Validation, Permitting, Performance Measures, Design Checklist; **Implementation and Operation** including Start-up Procedures, Operations Practices, Monitoring, QA/QC; **Case Histories. PART II — SOIL FLUSHING: Application Concepts; Design Development; Implementation and Operation; Case Histories. PART III — SOLVENT CHEMICAL: Application Concepts; Design Development; Implementation and Operation.** (Subheads in Parts II and III similar to those in Part I). February, 1998 360 pp. \$79.95 00-323-10

VOL 4 — STABILIZATION/SOLIDIFICATION

Task Group: **Paul D. Kalb**, Brookhaven National Laboratory, *Chair*; **Jesse R. Conner**, Rust Remedial Services, Inc.; **John L. Mayberry**, SAIC; **Bhavesh R. Patel**, Brookhaven National Laboratory; **Joseph M. Perez, Jr.**, Battelle Pacific Northwest; **Russell L. Treat**, Foster Wheeler Environmental Corp.

Partial Contents: **Application Concepts** describing three processes, i.e., Aqueous Stabilization/Solidification, Polymer Stabilization/Solidification, and Vitrification; **Design Development** for each of the three processes described and including Remediation Goals, Design Basis, Design and Equipment Selection, Modifications, Pretreatment, Posttreatment, Instrumentation and Controls, Safety Issues, Specification Development, Cost Data, Design Validation, Permitting, Performance Measures, Design Checklist; **Implementation and Operation** for each of the three methods including Start-up Procedures, Operations Practices, Monitoring, QA/QC; **Case Histories** for each method including Polyethylene Microencapsulation, Sulfur Polymer Encapsulation, Ex-Situ Melters and In Situ Vitrification. 1997 Hardcover 232 pp. \$79.95 00-324-00

VOL 5 — THERMAL DESORPTION

Task Group: **William L. Troxler, P.E.**, Focus Environmental Inc., *Chair*; **Edward S. Alperin**, IT Corporation; **Paul R. de Percin**, USEPA; **Joseph H. Hutton, P.E.**, Canonie Environmental Services, Inc.; **JoAnn S. Lighty, Ph.D.**, University of Utah; **Carl R. Palmer, P.E.**, Rust Remedial Services, Inc.

Partial Contents: **Design Development** including Remediation Goals, Design Basis, Design and Equipment Selection, Process Configurations, Pretreatment, Posttreatment, Instrumentation and Controls, Safety Requirements, Specification Development, Cost Data, Design Validation, Performance Requirements, and Performance Measures; **Implementation and Operation** including Start-up Procedures, Operations Practices, Monitoring, and QA/QC; **5.0 Case Histories** including Rotary Dryer, Thermal Screw, Paddle Dryer, Anaerobic Thermal Processor, Conveyor Belt, Batch Vacuum System, and Mercury Retort. 1997 Hardcover 304 pp. \$69.95 00-325-10

VOL 6 — THERMAL DESTRUCTION

Task Group: **Francis W. Holm, Ph.D.**, SAIC, *Chair*; **Carl R. Cooley**, Department of Energy; **James J. Cudahy, P.E.**, Focus Environmental Inc.; **Clyde R. Dempsey, P.E.**, USEPA; **John P. Longwell, Sc.D.**, Massachusetts Institute of Technology; **Richard S. Magee, Sc.D., P.E.**, DEE, New Jersey Institute of Technology; **Walter G. May, Sc.D.**, University of Illinois.

Partial Contents: **Application Concepts** of four major processes, i.e. Wet Air Oxidation, Texaco Gasification Process, Flameless Thermal Oxidation, and Plasma Furnaces. **Design Development** of each of the four processes including Remediation Goals, Design Basis, Design and Equipment Selection, Modifications Pretreatment, Posttreatment, Instrumentation and Controls, Safety Requirements, Specification Development, Cost Data, Design Validation, Permitting, Performance Measures, Design Checklist. **Implementation and Operation** of each of the methods including Start-up Procedures, Operations Practices, Monitoring, QA/QC. **Case Histories.** 1997 Hardcover 260 pp. \$69.95 00-326-10

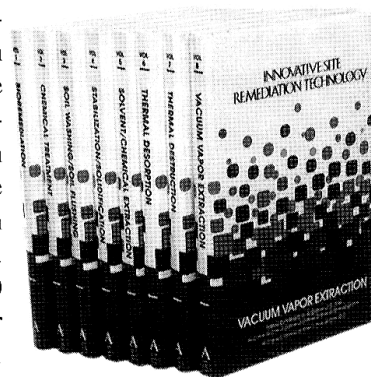
VOL 7 — VAPOR EXTRACTION AND AIR SPARGING

Task Group: **Timothy B. Holbrook, P.E.**, Camp Dresser & McKee, *Chair*; **David H. Bass, Sc.D.**, Groundwater Technology, Inc.; **Paul M. Boersma**, CH2M Hill; **Dominic C. DiGuilio**, University of Arizona; **John J. Eisenbeis, Ph.D.**, Camp Dresser & McKee; **Neil J. Hutzler, Ph.D.**, Michigan Technological University; **Eric P. Roberts, P.E.**, ICF Kaiser Engineers, Inc.

Partial Contents: **Vapor Extraction, Bioventing, and Air Sparging Application Concepts; Design Development for Vapor Extraction and Bioventing Systems** including Soil Remediation Goals, Design Basis, Equipment Selection, Process Modifications, Posttreatment, Instrumentation and Controls, Safety Requirements, Drawings and Specification Development, Cost Estimating, Design Validation, Permitting, Design Checklist; **Vapor Extraction Implementation and Operation** including Start-up Procedures, Maintenance, Performance Monitoring, Operational Modifications, and QA/QC; **Design Development for Air Sparging and Other Saturated Zone Processes; Implementation and Operation of Air Sparging and Other Saturated Zone Processes; Case Histories.** February, 1998 Hardcover 400 pp. \$89.95 00-327-10.

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